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10/656,800	09/05/2003	James W. Warner	OI7035752001	7105

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EXAMINER

MORRISON, JAY A

ART UNIT	PAPER NUMBER
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2168

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,800

Applicant(s)

WARNER ET AL.

Examiner

Jay A. Morrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. Claims 1-29 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. Claims 1-25, 27, 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The cited claims do not produce a tangible result. In most cases methods are only statutory when recorded on some computer-readable medium.

5. As per claims 26 and 28, these claims clearly recite a "computer usable medium", which may comprise "carrier waves". However these data signals are not tangible, and cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the data signal. Computer program or processes are only realized within the computer when stored in a memory or storage element. Therefore, a data signal does not meet the "useful, concrete, and tangible" requirement as set forth in *State*

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Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 25-32 are non statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz et al. ('Katz' hereinafter) ("Xquery from the Experts: A Guide to the W3C XML Query Language", ISBN: 0-321-18060-7) in view of Barton et al. ('Barton' hereinafter) (Publication Number 20040068487).

As per claim 1, Katz teaches

"(b) for each of the identified one or more child nodes, determining if the child node relates to an operator for which top-down processing can be performed; calling and executing the operators from (a) for the child nodes that are eligible for top-down processing; (d) generating output results for a child node that is not eligible for top-down processing" (chapter 6, page 384, paragraphs 2-4).

Katz does not explicitly indicate "(a) identifying whether one or more child nodes exist; ... (e) outputting the output results to a data stream".

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However, Barton discloses "(a) identifying whether one or more child nodes exist; ... (e) outputting the output results to a data stream" (paragraphs [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of "(a) identifying whether one or more child nodes exist; ... (e) outputting the output results to a data stream" would have given those skilled in the art the tools to process events as they are generated. This gives the user the advantage of reducing the storage necessary to process hierarchies.

As per claim 2,

Katz does not explicitly indicate "determining whether the data stream already exists; and creating the data stream if it does not exist".

However, Barton discloses "determining whether the data stream already exists; and creating the data stream if it does not exist" (paragraph [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of "determining whether the data stream already exists; and creating the data stream if it does not exist" would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claim 3, Katz teaches

“the program statement is intended to create XML, wherein one or more XML tags are generated” (chapter 6, “Composition Techniques” section).

As per claim 4, Katz teaches

“the program statement comprises a SQL/XML operator” (chapter 6, “Composition Techniques” section).

As per claim 5, Katz teaches

“the SQL/XML operator is a XMLElement(), XMLAgg(), XMLConcat(), XMLForest(), XMLAttribute(), XMLComment(), or XMLPI() operator” (chapter 6, “Composition Techniques” section).

As per claim 6, Katz teaches

“nodes corresponding to a concatenate operation or a CASE WHEN statement on top of SQL/XML operator are eligible for top-down processing” (chapter 6, “Composition Techniques” section and chapter 7, page 384, paragraphs 2-4).

As per claim 7,

Katz does not explicitly indicate “the data stream is closed after the parent operator node has been fully evaluated”.

However, Barton discloses “the data stream is closed after the parent operator node has been fully evaluated” (paragraph [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “the data stream is closed after the parent operator node has been fully evaluated” would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claim 8, Katz teaches

“a child operator node is identified which is not eligible for top-down processing” (chapter 7, page 384, paragraphs 2-4).

As per claim 9, Katz teaches

“the child operator node not eligible for top-down processing is evaluated using bottom-up processing” (chapter 7, page 384, paragraphs 2-4).

As per claim 10, Katz teaches

“both top-down and bottom-up processing are used to evaluate the program statement” (chapter 7, page 384, paragraphs 2-4).

As per claim 11,

Katz does not explicitly indicate “the data stream is built at an intended target location for the output results”.

However, Barton discloses “the data stream is built at an intended target location for the output results” (paragraph [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “the data stream is built at an intended target location for the output results” would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claim 12, Katz teaches

Katz does not explicitly indicate “the data stream is a single data stream” .

However, Barton discloses “the data stream is a single data stream” (paragraph [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “determining whether the data stream already exists; and creating the data stream if it does not exist” would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claim 13,

Katz does not explicitly indicate “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream”.

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However, Barton discloses “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream” (paragraphs [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream” would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claim 14,

Katz does not explicitly indicate “an intermediate copy is not stored for the output results”.

However, Barton discloses “an intermediate copy is not stored for the output results” (paragraph [108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “an intermediate copy is not stored for the output results” would have given those skilled in the art the tools to process events as they are generated. This gives the user the advantage of reducing the storage necessary to process hierarchies.

As per claim 15, Katz teaches

“(a) determining whether the parent operator node is related to a first child operator node that is eligible for top-down processing” (chapter 7, page 384, paragraphs 2-4);

“(b) evaluating the first child operator node with top-down processing if the child operator is eligible for top-down processing, wherein the output from the first child operator node is output to a data stream” (chapter 7, page 384, paragraphs 2-4).

As per claims 16-19,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 3-6 and are similarly rejected.

As per claim 20,

Katz does not explicitly indicate “an intermediate copy is not stored for the output from the first child operator node”.

However, Barton discloses “an intermediate copy is not stored for the output from the first child operator node” (paragraph [108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “an intermediate copy is not stored for the output from the first child operator node” would have given those skilled in the art the tools to process events as they are generated. This gives the user the advantage of reducing the storage necessary to process hierarchies.

As per claim 21, Katz teaches

“a second child operator node is identified which is not eligible for top-down processing” (chapter 7, page 384, paragraphs 2-4).

As per claim 22, Katz teaches

“the second child operator node not eligible for top-down processing is evaluated using bottom-up processing” (chapter 7, page 384, paragraphs 2-4).

As per claim 23,

Katz does not explicitly indicate “the data stream is built at an intended target location for the output from the first child operator node”.

However, Barton discloses “the data stream is built at an intended target location for the output from the first child operator node” (paragraph [0106] through [0108]).

It would have been obvious to one of ordinary skill in the art to combine Katz and Barton because using the steps of “the data stream is built at an intended target location for the output from the first child operator node” would have given those skilled in the art the tools to use stream processing so that the size of a tree can be limited. This gives the user the advantage of being able to save memory in processing hierarchies.

As per claims 24-25,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 12-13 and are similarly rejected.

As per claims 26 and 27,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 1 and are similarly rejected.

As per claim 28 and 29,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 15 and are similarly rejected.

Response to Arguments

8. Applicant's arguments filed 7/28/06 have been fully considered but they are not persuasive.

9. With regards to the Katz reference being published after the priority data of the application, the publication information and copyright information pages used to determine the date of publication are being included as noted on the PTO-892 (Notice of References Cited). It is noted that the publication date is August 22, 2003.

With regards to Applicants arguments regarding the 35 USC § 101 rejections, it is noted that data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the

data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. In addition, claims that do not in any way make tangible any results are also not statutory. Accordingly, the rejections are maintained.

With regards to Applicant's argument that Katz does not disclose "determining if the child node relates to an operator for which top-processing can be performed", it is noted that Katz discloses code which checks where an element is castable as an integer in top-down processing of child nodes (chapter 7, page 384, paragraph 3), which is equivalent to the limitation. Therefore Katz discloses the limitation.

With regards to Applicant's argument that Katz does not disclose "(c) calling and executing the operators from (a) for the child nodes that are eligible for top-down processing", it is noted that Katz discloses code which iteratively executes a top-down processing of child nodes using the comparison operator where they are castable (chapter 7, page 384, paragraphs 3), which is equivalent to the limitation. Therefore Katz discloses the limitation.

Conclusion

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10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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